

REMARKS

Claims 1-13 were rejected under 35 U.S.C. 112, second paragraph, as being indefinite. The Examiner states:

... In the last section of the independent claims 1 and 9, ... the limitation that the non-clear region of the first mask extends beyond the non-clear region of the second mask is unclear in that it could extend in any direction, and to any extent. The extent of overlap is also not clear where the non-clear region of the first mask covers a position of the non-clear region of the second mask.

The last paragraphs of Claims 1 and 9 imply that the non-clear region of the first mask occupies the entire position of the non-clear region of the second mask plus an additional area. Note the use of the term “cover” in Applicant’s specification, page 4, lines 17-18, stating with respect to the masks of Figs. 4 and 6:

regions 610 *cover* the positions of rectangles 410M ...

Claims 1 and 9 are not limited to the embodiment described in the specification. However, the use of the term “cover” in the specification is believed to clarify the claims.

Of note, the opaque regions 610 of the mask of Fig. 6 extend beyond the boundary of the positions of opaque rectangles 410M of the mask of Fig. 4 because the regions 610 cover the positions of clear gaps 430M of the mask of Fig. 4. See page 3, lines 14-15. (Claims 1 and 9 are not limited to this geometry.)

The extent and direction of the extension of the non-clear region of the first mask do not have to be specified in the claims because the claims can be as broad as the prior art permits. See MPEP 2173.04 (“Breadth is not indefiniteness”).

Claims 1-13 were rejected under 35 U.S.C. 102 over Kling et al. (U.S. patent no. 6,566,019).

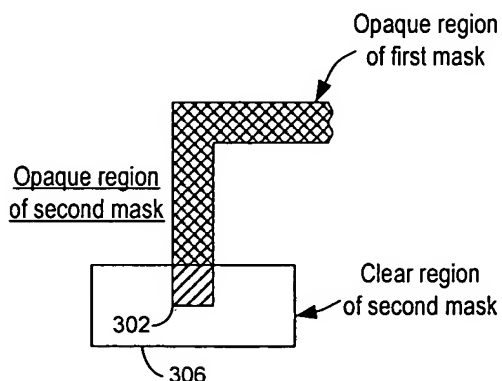
As discussed above, Claim 1 recites that the non-clear region of the first mask covers the position of the non-clear region of the second mask and extends beyond a boundary of that position.

Kling's Figs. 3A, 3B show two masks. Kling states in column 5, lines 23-27:

Line end extensions 302-304 are first added to a first mask ... Next clear exposure regions 306-308 are created within a second mask ...

Thus, the second mask is clear in regions 306, 308, but the first mask is opaque at extensions 302, 304 which are within the regions 306, 308. Therefore, the opaque region of the second mask does not cover the opaque regions 302, 304 of the first mask as recited in Claim 1.

The reverse is also true, that is, the opaque region of the first mask does not cover the position of the opaque region of the second mask. Indeed, the opaque region of the first mask is represented by a shaded line (hatched line) in Fig. 3A. See the diagram below. The opaque region of the second mask is the entire region outside of rectangles 306, 307, 308. This region is not covered by the hatched line:



Claims 2-8 depend from Claim 1. In addition, Claim 3 recites that a radiation dose used with the first mask is at most 1/4 of the radiation dose used with the second mask. This recitation is supported by Applicant's specification, page 4, lines 2-3. (Claim 3 is not limited by the embodiments discussed in the specification.)

Kling does not teach or suggest this relationship between the radiation doses.

Claim 4 depends from Claim 3, and has an additional recitation not taught by Kling ("a radiation dose in the operation (a) is at most 1/9 of the radiation dose in the operation (b)").

Claim 9 is believed to be allowable for reasons similar to the reasons given above for Claim 1.

Claims 10-13 depend from Claim 9.

New Claim 14 is believed to be allowable for reasons similar to the reasons given above for Claim 1.

Claims 15-21 depend from Claim 14. In addition, Claims 16-17 are believed to be allowable for reasons similar to the reasons given above for Claims 3-4 respectively.

Any questions regarding this case can be addressed to the undersigned at the telephone number below.

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on January 14, 2004.

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